

MW4200 Fiber Ranger

The Solution of Fiber Link Maintenance and Test



User Manual
(Version 1.0)

1 .General Information

MW4200 Fiber Ranger is newly designed fiber optic tester, it aims at fiber fiber network installation,fiber network engineering acceptance and fiber network maintenance. It can detect fiber fault location more accurate and quick, and designed for field use. MW4200 fiber ranger is an economical tester instead of OTDR in the test and maintenance of fiber network.

2. Main Features

- 1) Easy to identify the faults location**
- 2) Analysis reflection events and attenuation events automatically**
- 3) Build-in visual fault locator function**
- 4) Automatic Pulse Width Control design to ensure a convenientoperation.**
- 5) Up to 2500 measurement results can be stored in the unit.**

3.Specifications

Model	MW4200
Operating Wavelength	1550 ± 20
Fiber Type	9/125 um
Optical Connector Type	FC/PC
Detector Type	InGaAs APD
Pulse Width	Auto adjustment
Max.Distance (km) ①	60
Distance Accuracy (Reflection Event) (m)②	± (3m + 2*10 ⁻⁴ * distance)
Ref lection Event Dead Zone(m)③	15m
Power Supply	AA,3pcs
Battery Operating Time	> 2500
Auto Power-off time (min)④	10
VFL output power(mW)	> 1 mW
Data Storage Capacity⑤	2000
Working Temperature(°C)	-5 ~ 40
Storage Temperature(°C)	-10 ~ 70
Dimensions(mm)	175*90*44.5
Weight(g)⑥	278

NOTES:

① The max test distance 60km means MW4200 can detect the reflection events , which loss is >1dB in 60km of dynamic range; The detect distance of non-reflection event is 40km(>1dB).

② Distance accuracy depends on the length of measured distance length, if measured distance is 30km, the accuracy is $\pm (3m + 2 \times 10^{-4} \times 30 \times 10^3) = \pm 9m$.

③ Reflection Event Dead Zone means that the minimum dead zone of reflection event under the minimum pulse width.

④ Auto power-off time is 10 minutes. If turn on fiber ranger and no operation in 10 minutes, the unit will turn off automatically. If turn on 30s later and no operation, the back light will be off, then press any key, back light will be on again.

⑤ Fiber ranger can save up to 2000 measurement results in the unit; The data that save in the unit is shows by the mode of date&No, user will know the test time clearly when they check the data,.

⑥ The bare unit weight without battery, according to customers require different customized wavelength , the unit weight may vary slightly.

4 . Standard Package

1. MW4200 fiber ranger -----	1
2. User Manual -----	1
3.USB -----	1
4.Cleaning Swab-----	1
5.Battery -----	3
6.CD -----	1
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5 . Panel&Function

5-1 Appearance



5-1 Appearance

5-2 Keypad&Panel



Short press for Power ON the unit. Long press (over 3s) to activate

or deactivate 10minutes AUTO-off. The unit will automatically powered off after 10 minutes idle time.



Under the test mode, press this key to enter OTDR mode test the under- test fiber and display the results in the screen.



Press this key to activate the VFL module.(User only can operate those function of VFL such as turn on/off, 1Hz switch on the main interface and event scanning interface).



Check saved data, choose one data, long press(over 2s) the key to read all information of the data, and press the key to delete the data.



Under test mode, when it has multiple measurements, user can press this keypad to review the previous measurement.



Under test mode, when it has multiple measurements, user can press this keypad to review the next measurement.



Press the key to save the current test data.


5-3 Operation

5-3-1Power On the Fiber Ranger and enter into Test Mode.

Self Check V1.4 File-----> OK V-APD---> OK RAM-----> OK	V XX.XX : The unit version number. Press ▲ to power on the unit then switch language between Chinese&English The following functions are available before the unit leaves the factory. File is to save data and test data. V-APD is to test optical device. RAM is to test data progressing unit.
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5-3-1 Power On Self Test Interface

5-3-2 Main Interface

 2014-01-01 SCAN to start test ▲▼ to browse Event	After power on the unit, main interface displays the operating method and function of keypad.
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5-3-2 Main Interface

5-3-3 Testing

2014-08-14 Testing >	Note: The unit starts to test 5s later, long time to enter test system effects battery working life, the unit will turn off test system automatically after 30s idle time, next test needs 5s to start.
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5-3-3 Testing Interface

5-3-4 Test Result

<pre> L=52381m 2014-01-01 4 \ 47516m 0.8dB 5 + 52381m ----- </pre>	<p>“52381m”(see left-hand chart) is the whole fiber link length, and press ▲/▼ to check detail information of link event</p>
<pre> L=28611m 2014-01-01 0 + 0m ----- 1 \ 18768m 0.1dB 2 \ 19419m 2.3dB 3 \ 20525m 0.5dB </pre>	<p>L The whole link length The first column Event No. The second column Event type The third column Event distance The fourth column Event loss (----- The result cannot be counted or no need to be counted.)</p>

5-3-4 Result Interface

5-3-5 Historical Record

<pre> History 2014-08-14 14081100 Length: 14081101 49136m 14081102 14081400 </pre>	<p>Historical record , the components of record is: date and S/N., there is only 100pcs records every day as the limited of the length (changing the date can be saved continuously of the record) .</p>
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5-3-5 Historical Record

5-3-6 Modify The Refractive Index

<p style="text-align: right;">2014-08-14 ✕</p> <p>Input IOR n=1.4720</p>	<p>Special function : in the main menu interface, please press(over 2s) ▲+▼ to enter this function at the same time Press ▲ ▼ to modify the refractive index, then press SAVE to save it. Press “RECALL” key to recover the original index.</p>
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5-3-6 Modify the refractive index

5-3-7 System Time Adjustment

<p style="text-align: right;">2014-01-01 ✕</p> <p>Input Time</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;"> 2014-01-01 </div> <p>22:17</p>	<p>Special function : in the main menu interface, please press(over 2s) “VFL+▲” to enter the function. Press ▲ ▼to adjust the time, press “VFL” to change the required position. Press Save to save the data.</p>
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5-3-7System Time Adjustment

5-3-8Format Storage

In the historical record interface, please press SCAN+SAVE at the same time around 2s, the system start to format, the storage delete all of the data (except time, refractive index) , there will be a window to remind success after finish the process.

5-3-9 Save test trace

Press “VFL”and “SAVE”keys simultaneously for 2s to activated or deactivated the trace saved function (it shows on the screen prompts), after finish measurement every time, if user want to save trace, please

press “SAVE” key to save the trace; if doesn’t, please press any other key to quit. User can check the saved trace on computer. Press “VFL”and “▼”keys simultaneously for 2s to activate USB, now attached to a computer via USB, the computer will find out the 8M capacity USB, and “cr” file is referred to save trace file in “CURVE”folder.

Notes: The instrument doesn’t support the maintenance function of trace file, it means that the trace file that you no longer use only delete through USB on computer.

6 .Maintenance

- 1) Keep the fiber output ports are clean, Please clean them regularly with the pure Alcohol cotton swabs.
- 2) Keep the dust-proof cap clean and cover it after the test, pls keep the USB port and connector are clean at the same time.
- 3) Turn off the unit and keep the output ports inactive when cleaning. Otherwise, it will lead to dangerous radiation harms.
- 4)Pls use a standard optical adapter to connect with output port, otherwise, the sensor port can be damaged and the whole system performance will be affected.
- 5) Take out the batteries when not in use for a long time.

7 .Notices

- 1) There are laser and sensor inside the unit. Please do not point the optical sources to the sensors directly, otherwise the sensor will be damaged

- 2) Do not expose the unit to the sun directly.
- 3) Do not look at the output ports directly when it is turned on.
- 4) Before “scanning”, ensure the tested fiber is well connected to the “OTDR port” or “VFL port”. Do not plug in/out the fiber during the test.

8 .Warranty

Details of warranty terms and conditions are given as below:

- 1) Myway warrants that MW4200 Fiber Ranger will be free from defects in material and workmanship for a period of 18 months. The date will be started from the date of goods shipment.
- 2) If any defectives happened due to quality problems of the product during the warranty period, Myway promises to repair or replace free of charge. But the freight cost and related taxes will be shared by both parties. Myway will pay the shipping cost from customer side to Myway and pay the import taxes in China. Customer will pay the shipping cost from seller to customer side and its local import taxes accordingly.
- 3) This warranty is limited to defects in workmanship and materials and does not cover damages from accident, acts of god, neglect, wrong usage or abnormal conditions of operation.
- 4) Myway will charge corresponding fees for the cost of materials, repair and shipping in conditions of below:
 1. Defects occurred under normal use and service but out of the warranty period.
 2. Failures and damages occurred do not because of defects in material

and workmanship of products.

3.Failures and damages occurred because of failing to comply with the Operation Instruction and necessary attention.

4.abnormal conditions of operation or handling:

Such as artificial damage, or operating in abnormal conditions of like high temperature、 high voltage, humidity and etc., seller will charge depend on the actual failure rating.

Warranty Registration Card

Serial Number: _____

Model Number: _____

Date of Purchase: _____

Company Name:

Company Address:

TEL: FAX:

E-mail:

Note: Please fax this note within one month from the date of receiving units.